

an elongated core having first and second ends, said elongated core being formed of a substantially rigid material;

an elongated sleeve having an embossing pattern formed thereon, said elongated sleeve being formed of a material which is less rigid than said core; and

a positioning means for selectively positioning said sleeve with respect to said core, said positioning means including at least one axially extending bore [and at least one], a plurality of radially extending passages intersecting said axially extending bore and a circumferential groove formed in a surface of said core interconnecting said radially extending passages formed in said core for selectively communicating pressurized air to [a] said surface of said core with said sleeve being formed of an expandable material such that when pressurized air is passed to said surface of said core, said sleeve expands so as to be displaceable with respect to said core;

wherein said elongated sleeve is releasably secured to said core such that said elongated sleeve is axially and circumferentially fixed with respect to said core when in operation and can be selectively axially removed from said core.

~~B2~~ 18. (Amended) The embossing roll as defined in claim [17] 1, wherein said circumferential groove is .0625" to .1875" wide and .0625" to .1875" deep.

~~B3~~ 20. (Amended) The embossing roll as defined in claim [17] 1, wherein an inner surface of said sleeve adjacent respective ends of said sleeve is tapered outwardly to facilitate positioning of said sleeve on said core.

22. (Twice Amended) A method of forming an embossing roll for embossing a substantially continuous web of sheet material comprising:

providing an elongated core formed of a substantially rigid material;

positioning an elongated sleeve formed of a less rigid material over said elongated core [by selectively expanding an inner surface of said sleeve with respect to said core, sliding said sleeve along said core and communicating pressurized air from a central bore of core to an outer surface of said core for forming an air cushion between said core and said sleeve; and]

providing a three-dimensional laser engraving device having a laser positioned to move in three dimensions;

positioning said elongated core having said sleeve thereon adjacent said laser; and

three dimensionally laser engraving an embossing pattern in said elongated sleeve, said embossing pattern including embossing elements having at least one of curvilinear side walls, spherical surfaces and multiple elevations with respect to a reference surface;

wherein said elongated sleeve is selectively axially removable from said core.

33. (Twice Amended) A system for embossing a substantially continuous web of material comprising:

a supply means for supplying at least one substantially continuous web of material;

feed means for feeding said substantially continuous web of material;

embossing means for embossing a predetermined pattern in said web material; and

a take-up means for taking-up said web material;

said embossing means comprising;

at least one elongated core formed of a substantially rigid material; and

a plurality of elongated sleeves each having an embossing pattern formed thereon;

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(concluded)

a positioning means for selectively positioning said sleeve with respect to said core, said positioning means including at least one axially extending bore [and at least one], plurality of radially extending passages intersecting said axially extending bore and a circumferential groove formed in a surface of said core intersecting each of said plurality of radially extending passages formed in said core for selectively communicating pressurized air to [a] said surface of said core, said sleeve being formed of an expandable material such that when pressurized air is passed to said surface of said core, said sleeve expands so as to be displaceable with respect to said core;

wherein said plurality of elongated sleeves are interchangeable with one another with each of said plurality of elongated sleeves being selectively secured to said core in accordance with the predetermined embossing pattern formed thereon.

49. (Amended) The system as defined in claim [48] 33, wherein said circumferential groove is .0625" to .1875" wide and .0625" to .1875" deep.

53. (Twice Amended) ~~A~~ system for embossing a substantially continuous web of material comprising:

a supply means for supplying at least one substantially continuous web of material;

feed means for feeding said substantially continuous web of material;

embossing means for embossing a predetermined pattern in said web material; and

a take-up means for taking-up said web material;

wherein at least one roll of the system includes;

an elongated core formed of a substantially rigid material;

an elongated sleeve formed of a material less rigid than said elongated core with said elongated sleeve being releasably secured to said core such that said elongated sleeve is axially and circumferentially fixed with respect to said core when in operation and can be selectively axially removed from said core; and

a positioning means for selectively positioning said sleeve with respect to said core, said positioning means including at least one axially extending bore [and at least one], plurality of radially extending passages intersecting said axially extending bore and a circumferential groove formed in a surface of said core intersecting each of said plurality of radially extending passages formed in said core for selectively communicating pressurized air to [a] said surface of said core; and

wherein said sleeve is formed of an expandable material such that when pressurized air is passed to said surface of said core, said sleeve expands so as to be displaceable with respect to said core.